



Appendix A: Public Survey

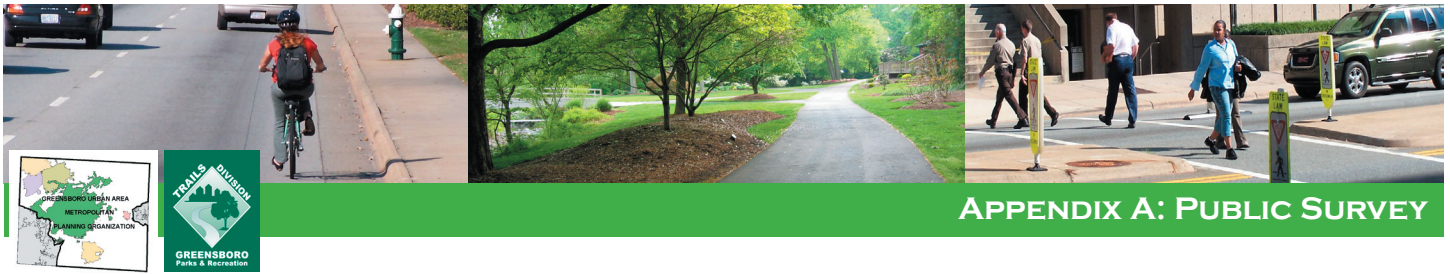
Final Report Greensboro Trail User and Non-user Study

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Introduction

Regular physical activity is associated with a healthier, longer life. America's population is getting older, and there is increasing concern about our health and environment. Physically active people have a lower risk of heart disease, high blood pressure, diabetes, obesity, and some types of cancer. Not surprisingly, it has also been well documented that sedentary lives and prolonged periods of inactivity compromise health. Additionally, reports show that the U.S. population continues to be less physically active and is experiencing increasing rates of obesity. In 1996, a report released by the U.S. Surgeon General, entitled "Physical Activity and Health," concluded that a sedentary lifestyle is a primary factor in more than 200,000 deaths each year, equivalent to 25 percent of all deaths from chronic disease in the United States¹. The rise in the occurrence of cardiovascular disease, hypertension, diabetes, osteoporosis and some cancers are clearly linked to lack of physical activity. For many health practitioners across the nation, lack of access to environments that support physical activity contributes to our health and wellness problems. Health statistics for Greensboro and the Triad Region mirror national statistics and illustrate that the overall health of the population is in decline¹. Health problems within the city and region have emerged in part due to the pattern of growth and development of the city, and increasingly sedentary lifestyle and lack of access to outdoor resources.

Because physical inactivity is one of the greatest contributors to declining health, promoting and encouraging active lifestyles helps improve health and wellness throughout the population¹. One of the actions the City of Greensboro can take to promote the health and welfare of residents is to develop and provide access to greenways and trails that encourage people to venture outside and enjoy the outdoors.

There seems little doubt that trails are extremely popular and heavily used. During 1994-95, for example, an estimated 68.3% of Americans 16 and older participated in non-motorized "trail/street/road activities" as defined in the National Survey on Recreation and the Environment. This means that 136.9 million people in the United States walked, ran, jogged, or biked during that period. The same study found that walking was the most popular outdoor recreation activity in the nation, with two-thirds of the population participating in the previous 12 months².

The construction and promotion of trails has also proven to be quite cost effective. A recent study in Lincoln, NE, looked at five trails to determine the cost benefit of bike and pedestrian trails. The average construction and maintenance cost of the trail was \$60,494 per trail per year. The trails were used an average of 225,351 person times. The study concluded that for every \$1 spent in investment of the trails, there was \$2.94 in direct medical benefit³.

The establishment of greenways and trails may enhance physical activity, however, there have been few efforts made to evaluate the trails systems or their expected usage. Very few studies have profiled the users of North Carolina trails^{4,5}, and no studies have been performed specific to Guilford County trails. A 1998 study in North Carolina found that 32% of state residents had used a trail in the past 12 months, and that another 22% wanted to, but was unable for some reason⁵.

One study was identified that examined trail users and compared them to the non-users. A cross sectional study conducted in Arlington, MA, looked at the comparison between the Minutemen Bikeway and Rail Trail users and non-users. Most of the trail users were reported to live within a few miles of the trail. Compared to non-users, the users were found to be



mostly white, young men. Most users were also more highly educated than the non-users with 60% reporting having a bachelor's degree and 30% having a Masters degree. Walking was found to be the most common activity on the trail and 61.5% reported using the trail 3 or more times per week. For those surveyed that did not use the trail, reasons for non-use included preference for physical activity elsewhere, lack of knowledge, disability, lack of time, and lack of interest⁶.

Estimating trail and greenway usage in Greensboro, describing the characteristics of trail users and non-users, and is the purpose of this report.

This report has several purposes,

- Comparing the demographic characteristics of users and non-users of Greensboro trails.
- Determining the prevalence of trail use by Greensboro residents.
- Describing the ways Greensboro residents use their trails.
- Tabulating the obstacles to trail use identified by Greensboro residents.

We believe this information will prove invaluable in formulating strategies to enhance physical activity in the Greensboro area.

To address these issues, this report consists of the following sections in addition to this introduction:

Methods,
Results (including Tables), and
Discussion.

Methods

Data Collection

Intercept survey

The data for the intercept study were gathered from greenway and trail users in Guilford County, North Carolina. A 21-item questionnaire was designed by study staff in collaboration with the Greensboro Parks and Recreation Department. The questionnaire items specifically address trail connections, demographic characteristics, and trail usage. Demographic characteristics of trail users included age, gender, marital status, education level, employment status, annual household income, and self-identified racial category.

Gena Dotson-Hargis, Stefanie Smith and trained survey staff administered the surveys according to standardized protocols. The staff interviewers, recruited from among M.P.H. and undergraduate students majoring in Health Education, received a one-hour training session provided by Ms. Dotson-Hargis. Interviewers were monitored regularly during data collection to ensure adherence to the protocol. Interviewers approached greenway and trail users at the access points of the trails just prior to or immediately following their activities. Interviewers identified themselves, and requested the users to participate in the study. Individuals 18 years of age or older were surveyed. Participation was voluntary and the questionnaire responses were anonymous and confidential. Efforts were made to obtain at least ten percent of the total surveys from each of the seven greenways and trails. Surveys were administered at both a.m. and p.m. sunlight hours on each day of the week to capture a variety of trail users. The greenways and trails for this study were selected with the guidance of the Greensboro Parks and Recreation Department, based on the popularity of the trail, their geographic location throughout the county and to



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provide representation of the diverse greenways, community parks and regional parks within Guilford county. The surveys were collected during April 2004 through April 2005. Completed survey questionnaires were obtained from 452 participants.

Phone survey

The data for the phone study were gathered from greenway and trail users and non-users inside of the city limits of Greensboro, North Carolina. A 19-item questionnaire was designed by study staff with input from staff at Greensboro Parks and Recreation Department and the Moses Cone Wesley Long Foundation. The questionnaire items specifically address trail usage, demographic characteristics, and motivational factors. The demographic characteristics collected included, age, gender, marital status, education level, employment status, annual household income, and self-identified predominate race/ethnicity. The survey staff administered the surveys according to standardized protocols. Survey staff consisted of Mark Schulz and Gena Dotson-Hargis and two research assistants, Crystal Washington and Stefanie Smith, recruited from the undergraduate and graduate public health program at the University of North Carolina at Greensboro. A typical phone interview lasted five minutes.

The phone survey was stratified by zip code in order to compare the responses of residents of Northwest Greensboro (zip codes 27408, 27409, 27410, and 27455) where most of the trails are located to those of Southeast Greensboro (zip codes 27401, 27403, 27405, 27406, 27407) where fewer trails and greenways are located. Tri Star Marketing Group supplied the survey staff with phone numbers and addresses for 2,500 Northwest Greensboro residents and 2,500 Southeast Greensboro residents. The lists were generating by randomly selecting 2,500 phone numbers from Tri Star Marketing Group's master list

of residential phone numbers for Northwest zip codes and Southeast zip codes of Greensboro. The master lists contained respectively, 39,843 and 53,141 phone numbers. Five hundred surveys (250 each from the Northwest and Southeast) were collected during June through August 2005.

Most surveys were completed between five and nine p.m. in order to take advantage of the better response rate during those hours. *Interviewers identified themselves, and requested the users to participate in the survey. Individuals 18 years of age or older were surveyed. Participation was voluntary and the questionnaire responses were kept confidential. Questionnaire responses were recorded by the interviewer, using check boxes and were translated into numeric code for statistical analysis.*

Data analysis

For the intercept survey, the overall proportion of respondents was calculated by demographic and by trail usage categories. The same proportions were calculated for each of the seven trails included in the study. The proportion of surveys collected under different conditions was also calculated. The association between sex and the following variables:

- Companionship on the trails,
- Activity at time of intercept, and
- Motivation for trail use,

was estimated by calculating prevalence odds ratios (ORs) and the respective 95% confidence intervals (CIs).

From the phone survey, the period prevalence of trail and greenway use for Greensboro residents was estimated for the past year (summer 2004-summer 2005) and for the past week (summer 2005). Separately the period prevalence for the past year was estimated for Northwest and Southeast Greensboro.



The proportion of phone survey respondents in different demographic categories was calculated for all respondents, those who identified themselves as users and those who identified themselves as non-users. Lastly, the demographic characteristics of the respondents of the phone survey were compared to the trail users who completed the intercept survey.

For non-users the proportion aware vs. unaware of the Greensboro trail and greenway system was calculated. The reasons for non-use were tabulated and the proportion of non-users who stated one of six different factors- exercise, physician recommendation, weight loss, meditation, nature, transportation- might motivate them to begin using the trails was calculated.

For users, we calculated the proportion who used the trails primarily for exercise, primarily for health, and primarily for transportation. We also tabulated the users activities during the last week- walking, bicycling, and running/jogging- by frequency and length of time.

All data analysis was done using SPSS version 12.0.

Results

Intercept Survey

Four hundred fifty surveys were completed for the intercept survey of the Greensboro Greenways and Trails (Table 1). For the intercept survey, we found the majority of our trail users to be Caucasian (67%), males (51%), between the ages of 20-39 (52%), well educated (having some post secondary education, (65%) employed full-time (60%) with incomes \$45,000 and below (45%). Demographic characteristics by trail are included in Appendix A (Table 17).

Of the users surveyed, 70% lived less than 5 miles from the trail. The majority used the trail alone, with exercise being the number one motivational factor. Three quarters of those interviewed reported that they

were on the trail to walk (Table 1a).



TABLE 1. Demographic information for all survey participants

	Overall Phone Surveys	Phone Non- Users	Phone Users	Intercept Users	All Users	Total
N	500	298	202	452	652	952
Age						
18-19	5 (1%)	2 (1%)	3 (2%)	24 (5%)	27 (4%)	29 (3%)
20-29	36 (7%)	15 (5%)	21 (10%)	138 (31%)	159 (24%)	174 (18%)
30-39	64 (13%)	30 (10%)	34 (17%)	96 (21%)	130 (20%)	160 (17%)
40-49	93 (18%)	47 (16%)	46 (23%)	77 (17%)	123 (19%)	170 (18%)
50-59	113 (22%)	60 (20%)	53 (26%)	77 (17%)	130 (20%)	190 (20%)
60-70+*	189 (39%)	144 (48%)	45 (22%)	38 (9%)	83 (13%)	227 (24%)
Missing	0 (0%)	0 (0%)	0 (0%)	2 (0.4%)	2 (0.3%)	2 (0.2%)
Gender						
Male	220 (44%)	130 (44%)	90 (45%)	227 (51%)	317 (48%)	447 (47%)
Female	280 (56%)	168 (56%)	112 (55%)	221 (49%)	333 (51%)	501 (53%)
Missing	0 (0%)	0 (0%)	0 (0%)	4 (1%)	4 (1%)	4 (0.4%)
Marital Status						
Single	104 (21%)	56 (19%)	48 (24%)	189 (42%)	237 (36%)	293 (31%)
Married	291 (58%)	175 (59%)	116 (57%)	210 (47%)	326 (50%)	501 (53%)
Divorced/Widowed	102 (20%)	66 (22%)	36 (18%)	50 (11%)	86 (13%)	152 (16%)
Missing	3 (1%)	1 (0%)	2 (1%)	3 (1%)	5 (1%)	5 (0.5%)
Education						
< 11 th grade	27 (5%)	22 (7%)	5 (2%)	8 (2%)	13 (2%)	35 (4%)
Completed HS	106 (21%)	88 (30%)	18 (9%)	46 (11%)	64 (10%)	152 (16%)
Some College	120 (24%)	70 (24%)	50 (25%)	99 (22%)	149 (23%)	219 (23%)
College Degree	169 (34%)	84 (28%)	85 (42%)	178 (40%)	263 (40%)	347 (36%)
Graduate School/ Post Bachelor's	67 (14%)	24 (8%)	43 (21%)	111 (25%)	154 (23%)	178 (19%)
Missing	11 (2%)	10 (3%)	1 (1%)	10 (2%)	11 (2%)	21 (2%)



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TABLE 1 (cont). Demographic information for all survey participants

	Overall Phone Surveys	Phone Non- Users	Phone Users	Intercept Users	All Users	Total
N	500	298	202	452	654	952
Employment Status						
Full-time	250 (50%)	123 (41%)	127 (63%)	273 (60%)	400 (62%)	523 (55%)
Part-time	47 (9%)	28 (10%)	19 (10%)	59 (13%)	78 (12%)	106 (11%)
Retired	143 (29%)	110 (37%)	33 (16%)	34 (8%)	67 (10%)	177 (18%)
Unemployed (Student, homemaker, not employed)	52 (10%)	31 (10%)	21 (10%)	79 (17%)	100 (15%)	131 (14%)
Missing	8 (2%)	6 (2%)	2 (1%)	7 (2%)	9 (1%)	15 (2%)
Annual Income						
< \$25,000	78 (16%)	58 (20%)	20 (10%)	96 (22%)	116 (18%)	174 (18%)
\$25,001 - \$45,000	97 (19%)	66 (22%)	31 (15%)	103 (23%)	134 (21%)	200 (21%)
\$45,001 - \$65,000	84 (17%)	43 (14%)	41 (20%)	63 (14%)	104 (16%)	147 (15%)
\$65,001 - \$85,000	44 (9%)	20 (7%)	24 (12%)	47 (10%)	71 (11%)	91 (10%)
> \$85,000	89 (18%)	43 (14%)	46 (23%)	69 (15%)	115 (17%)	158 (17%)
Missing	108 (21%)	68 (23%)	40 (20%)	74 (16%)	114 (17%)	182 (19%)
Ethnicity						
Caucasian	330 (66%)	176 (59%)	154 (76%)	301 (67%)	455 (70%)	631 (66%)
Black or African- American	138 (28%)	99 (33%)	39 (19%)	98 (22%)	137 (21%)	236 (25%)
Other (Asian/ Pacific Islander/ Native American/ Hispanic)	28 (5%)	20 (7%)	8 (4%)	38 (8%)	46 (7%)	66 (7%)
Missing	4 (1%)	3(1%)	1 (1%)	14 (3%)	15 (2%)	18 (2%)

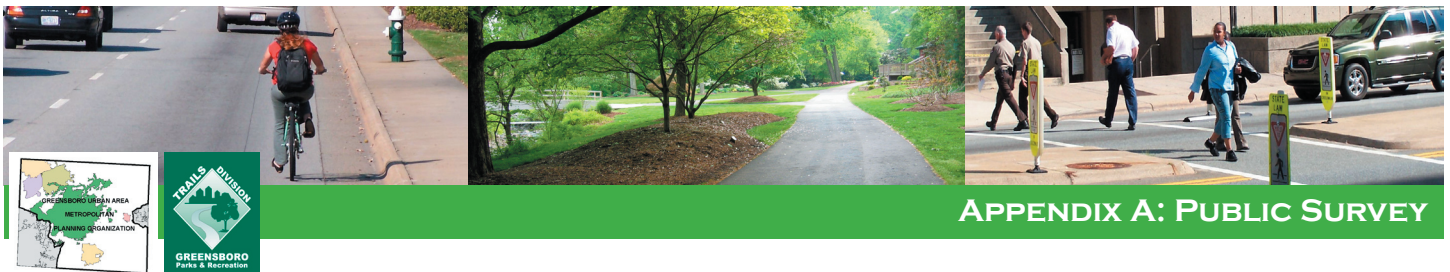


TABLE 1a. Activities Overall by Greenway and Trails N (%)

	Trail Survey	Lake Brandt	Lake Daniel	Latham Park	Country Park	Bur-Mil Park	Barber Park	Arboretum Lindley Park
N	450	42	56	70	79	35	51	75
Living Distance from Trail								
< 1 mile	126 (28%)	13 (31%)	27 (48%)	23 (33%)	15 (19%)	3 (9%)	16 (31%)	23 (30%)
1-5- miles	191 (42%)	21 (50%)	16 (29%)	22 (31%)	42 (53%)	21 (60%)	24 (46%)	27 (36%)
6-10 miles	71 (16%)	4 (10%)	10 (18%)	11 (16%)	13 (17%)	3 (9%)	7 (14%)	9 (12%)
> 10 miles	31 (7%)	0 (0%)	1 (2%)	1 (6%)	5 (6%)	5 (14%)	1 (2%)	9 (12%)
Outside the county	28 (6%)	4 (10%)	1 (2%)	1 (6%)	4 (5%)	3 (9%)	3 (6%)	7 (9%)
Other	3 (1%)	0 (0%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Mode of Travel to Trail								
Drove	306 (68%)	29 (69%)	24 (43%)	5 (29%)	67 (85%)	29 (83%)	45 (87%)	55 (72%)
Walked	106 (24%)	12 (29%)	27 (48%)	7 (41%)	5 (6%)	3 (9%)	5 (10%)	15 (20%)
Roller bladed	3 (1%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	0 (0%)	1 (2%)	1 (1%)
Rode Bike	28 (6%)	0 (0%)	4 (7%)	5 (29%)	5 (6%)	3 (9%)	0 (0%)	4 (5%)
Other	5 (1%)	1 (2%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Activity								
Walked	338 (75%)	30 (71%)	46 (82%)	47 (67%)	70 (89%)	23 (66%)	40 (78%)	62 (83%)
Rode a bike	85 (19%)	12 (29%)	9 (16%)	16 (23%)	17 (22%)	16 (46%)	2 (4%)	12 (16%)
Ran/Jogged	132 (30%)	12 (29%)	25 (45%)	25 (36%)	28 (35%)	11 (31%)	14 (27%)	11 (15%)
Studied Nature	79 (18%)	9 (16%)	17 (30%)	8 (11%)	12 (15%)	6 (17%)	5 (10%)	21 (28%)
Picnicked	43 (10%)	2 (5%)	7 (13%)	5 (7%)	12 (15%)	4 (11%)	4 (8%)	8 (11%)
Other (tennis, basketball, exercise stations, playground, napped)	27 (6%)	1 (2%)	4 (7%)	5 (7%)	5 (6%)	0 (0%)	5 (10%)	7 (9%)
Past 30 days, often used trails?								
Daily	55 (12%)	5 (12%)	10 (18%)	8 (11%)	8 (10%)	3 (9%)	10 (19%)	10 (13%)
4-6 times / week	77 (17%)	6 (14%)	18 (32%)	18 (26%)	13 (17%)	3 (9%)	11 (21%)	4 (5%)
2-3 times / week	118 (26%)	11 (26%)	14 (25%)	20 (29%)	21 (27%)	8 (23%)	18 (35%)	15 (20%)
Once / week	59 (13%)	5 (12%)	6 (11%)	6 (9%)	15 (19%)	5 (14%)	3 (6%)	13 (17%)
Twice / month	49 (11%)	9 (21%)	4 (7%)	3 (4%)	7 (9%)	7 (20%)	1 (2%)	13 (17%)
Once / month	51 (11%)	4 (9%)	3 (5%)	6 (9%)	11 (14%)	6 (17%)	5 (10%)	10 (13%)
Other	36 (8%)	1 (2%)	1 (2%)	9 (13%)	2 (3%)	3 (9%)	4 (8%)	10 (13%)
Missing	7 (2%)	1 (2%)	0 (0%)	0 (0%)	2 (3%)	0 (0%)	0 (0%)	1 (1%)



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TABLE 1a (cont). Activities Overall by Greenway and Trails N (%)

	Trail Survey	Lake Brandt	Lake Daniel	Latham Park	Country Park	Bur-Mil Park	Barber Park	Arboretum Lindley Park
N	450	42	56	70	79	35	51	75
Past 14 days, often used trails?								
At least once per month	123 (27%)	15 (36%)	9 (16%)	16 (23%)	18 (23%)	14 (40%)	8 (15%)	33 (43%)
At least once per week	94 (21%)	8 (19%)	8 (14%)	14 (20%)	20 (25%)	9 (27%)	5 (10%)	16 (21%)
Daily or Almost Daily	60 (13%)	2 (5%)	18 (32%)	8 (11%)	10 (13%)	4 (11%)	11 (21%)	5 (7%)
2-4 times a week	118 (26%)	13 (31%)	17 (30%)	20 (29%)	23 (29%)	6 (17%)	20 (39%)	12 (16%)
5-7 times a week	18 (4%)	1 (2%)	3 (5%)	6 (9%)	3 (4%)	1 (3%)	3 (6%)	0 (0 %)
Missing	39 (9%)	3 (7%)	1 (2%)	6 (9%)	5 (6%)	1 (3%)	5 (10%)	10 (13%)
With whom do you use trail?								
Alone	191	18 (43%)	25 (45%)	40 (57%)	30 (38%)	23 (56%)	14 (27%)	28 (37%)
Friends	230	26 (62%)	22 (39%)	38 (54%)	45 (57%)	28 (68%)	23 (44%)	29 (38%)
Family	188	18 (43%)	29 (52%)	18 (26%)	32 (40%)	18 (44%)	19 (36%)	42 (55%)
Groups	18	0	3 (5%)	0	5 (6%)	4 (10%)	0	3 (4%)
Animals	72	7 (17%)	12 (21%)	9 (13%)	16 (20%)	5 (12%)	4 (7%)	14 (18%)
Other	8	0	1 (2%)	1 (1%)	0	0	3 (6%)	2 (3%)
With whom are you here today?								
Alone	150 (33%)	12 (29%)	23 (41%)	37 (53%)	26 (33%)	15 (37%)	15 (29%)	19 (25%)
Friends	129 (29%)	14 (33%)	13 (23%)	21 (30%)	25 (32%)	17 (42%)	16 (31%)	15 (20%)
Family	127 (28%)	12 (29%)	20 (36%)	9 (13%)	21 (27%)	10 (24%)	19 (36%)	31 (41%)
Groups	8 (2%)	0	1 (2%)	0	1 (1%)	0	0	6 (8%)
Animals	42 (9%)	4 (9.5%)	9 (16%)	6 (9%)	11 (14%)	1 (2%)	3 (6%)	8 (10%)
Other	3 (1%)	0	1 (2%)	0	0	0	0	2 (3%)
What motivated you to use trail?								
Exercise	354 (78%)	36 (86%)	52 (93%)	60 (86%)	58 (73%)	33 (80%)	39 (75%)	49 (65%)
Nature	205 (45%)	20 (48%)	26 (46%)	24 (34%)	32 (40%)	20 (49%)	16 (31%)	50 (66%)
Meditation/ Reflection	115 (25%)	6 (14%)	19 (34%)	21 (30%)	19 (24%)	8 (20%)	7 (13%)	21 (28%)
Weight Loss	125 (28%)	13 (31%)	11 (20%)	16 (23%)	21 (27%)	13 (32%)	17 (33%)	21 (28%)
Transportation	19 (4%)	1 (2%)	4 (7%)	5 (7%)	2 (2%)	0	2 (4%)	5 (6%)
Other	63 (14%)	7 (17%)	10 (18%)	8 (11%)	10 (13%)	4 (10%)	6 (11%)	14 (18%)



Data for the intercept survey was mostly completed during weekdays. The weather conditions on those days were fairly pleasant with sunny skies and temperatures in the 50°- 69°F (Table 2). Intercept surveys were completed in every season but fall.

TABLE 2. Survey conditions

Day of the Week	N (%)
Monday	36 (8%)
Tuesday	91 (20%)
Wednesday	74 (16%)
Thursday	48 (11%)
Friday	75 (17%)
Saturday	48 (11%)
Sunday	28 (6%)
Missing	52 (12%)
Season	
Spring	114 (25%)
Summer	126 (28%)
Winter	180 (40%)
Missing	23 (7%)
Weather Conditions	
Sunny	357 (79%)
Cloudy/Overcast	37 (8%)
Rainy	5 (1%)
Missing	23 (7%)
Temperature	
30-39°	4 (1%)
40-49°	24 (5%)
50-59°	81 (18%)
60-69°	128 (28%)
70-79°	58 (13%)
80-89°	44 (10%)
90-99°	24 (5%)
Missing	89 (20%)
Month	
March 2004	22 (5%)
April 2004	17 (4%)
July 2004	35 (8%)
August 2004	71 (16%)
February 2005	220 (31%)
March 2005	112 (25%)
Missing	52 (11%)

Trail usage varied by sex. Men were more than twice as likely as women to use the trails alone and only about half as likely as women to use the trails with friends (Table 3). When asked what motivated them to use the trail, women cited weight loss almost twice as often as men. Men were almost three times more likely than women to cite transportation as their motivation for using the trails (Table 4). Finally, we examined the activities of the trail users when they were intercepted on the trail. Men were more than three times more likely than women to be bicycling (Table 5).

Table 3. Companionship on trails by gender

With whom use trails	OR ¹	95% CI
Alone	2.187	(1.489, 3.212)
Friends	0.559	(0.383, 0.814)
Family	0.823	(0.565, 1.200)
Groups	0.856	(0.324, 2.261)
Animals	0.642	(0.383, 1.077)
Other	0.137	(0.137, 2.450)

¹ Females are the reference group

Table 4. Motivation for trail use by gender

Motivation	OR ¹	95% CI
Exercise	1.114	(0.654, 1.898)
Mother Nature	0.689	(0.460, 1.034)
Meditate	0.745	(0.476, 1.165)
Weight Loss	0.555	(0.356, 0.864)
Transportation	2.875	(1.010, 8.179)
Other	0.516	(0.292, 0.910)

¹ Females are the reference group

Table 5. Activities on trails by gender

Activity	OR ¹	95% CI
Walking	0.792	(0.508, 1.237)
Biking	3.369	(1.993, 5.697)
Run/jog	1.365	(0.902, 2.065)
Study nature	1.085	(0.665, 1.772)
Picnic	0.592	(0.308, 1.141)
Other	0.939	(0.430, 2.050)

¹ Females are the reference group



Phone Survey

Non-Users

Out of the 500 phone survey participants, 298 were self-reported non-users, the majority located in Southeastern Guilford County (Table 6). Individuals over the age of 60 accounted for 48% of the non-users with the 50-59 age group following with 20%. With regard to gender, females represented 56% of the non-user group. Most were married (59%) with at least a high school education, working full time or retired, and had annual incomes starting at \$15,000. Caucasians (59%) followed by African Americans (33%) accounted for the vast majority of the non-users (Table 1).

TABLE 6. Trail use/non-use from phone survey by region

Trail Use/Non-Use by Region		
	Southeast (250)	Northwest (250)
Users	70 (28%)	132 (53%)
Non-Users	180 (72%)	118 (47%)

TABLE 7. Prevalence of use in last 7 days of users by region

User Prevalence by Region			
	Northwest (129)	Southeast (70)	Total (199)
Used past 7 days	60 (46.5%)	26 (37%)	86 (43.2%)
Not used past 7 days	69 (53.5%)	44 (63%)	113 (56.8%)

Among those who used at least once in the past year, a more in depth analysis of their use was conducted. These individuals were asked about their usage, if any, of the trails in the last 7 days. The prevalence of use by region was also examined (Table 7). There was a higher prevalence of 46.5 % of use for those in Northwestern Guilford County. More than half of the users in the Southeast, 63%, reported that although they used the trails in the past year, they had not in the last 7 days.



Over 70% were aware of the greenway and trail system in the city of Greensboro (Table 8). A closer look was taken at those who reported being aware of the greenways and trails, comparing awareness between regions. Although the Southeast had more reported non-users, 55% of them were aware of the systems. Awareness was reported by 45% of those in the northwest. The survey asked for reasons they may not have used the trails. Fourteen preset reasons were provided to guide the participants in answering the question. The number one reason for non-use among those who were aware of the system was no time. Forty-six aware participants (22%) stated the trails were not close enough to them. Preferring indoor exercise and having no companion were close behind. Over half of the participants reported reasons not listed on the surveys that were recorded in the *other* category. Some of these included: poor health (13%), not participating in recreational activities (7%), old age (7%), and no desire and/or interest in using the greenways and trails (Table 9).

TABLE 8. Awareness of trails reported by phone non-users

Awareness of Trails	N (%)
Not Aware	84 (28%)
Aware	214 (72%)
Aware by region	214
Northwest	96 (45%)
Southeast	118 (55%)

TABLE 9. Reasons for non-use reported by those aware of trails

Reasons for Non-Use of Trails	N (%)
Prefer Indoor Exercise	38 (18%)
Not Close to Trails	46 (22%)
No Time	79 (37%)
No Companion	22 (10%)
Poor Health	28 (13%)
Don't participate in rec activities	15 (7%)
Disability	14 (7%)
Old Age	14 (7%)
Don't Get Out Much	14 (7%)
No desire/interest	13 (6%)
Use other area (<i>neighborhood, garden, etc</i>)	11 (5%)

The non-users not aware of the greenway and trail system were also asked to give reasons for non-use. They were provided with 7 preset reasons as well as the *other* category. Sixty-one (73%) did not use the trails because they did not know about them (Table 10). Not having enough time was the next highest reported reason with 15.5% responding. The trails were not close enough to 11 participants and unable/hard to locate for 8 of them. Reasons recorded in the *other* category included disability (8%), no interest (7%), and old age (5%).



TABLE10. Reasons for non-use by those not aware of trails

Reasons for Non-Use of Trails	N (%)
Unable to Locate	8 (10%)
Did Not Know of Trails	61 (73%)
No Time	13 (15.5%)
Not Close to Trails	11 (13%)
Disability	7 (8%)
No Interest	6 (7%)
Poor Health	4 (5%)
Old Age	4 (5%)
Use other area (<i>neighborhood, garden, etc</i>)	3 (4%)

All non-users were asked, “What would motivate you to use the greenways and trails?” Using the trails for exercise would motivate use for 30% of non-users. Nature (flowers, trees, landscape) was chosen for motivation by 19% of the participants. In the *other* category, better/improved health (7%), time (5%), and nothing/no interest (26%) were common responses for greenway and trail use (Table 11).

TABLE 11. Motivation for trail use reported by all non-users

Motivation for Trail Use	N (%)
Exercise	87 (30%)
Weight Loss	31 (10%)
Meditation	21 (7%)
Nature	55 (19%)
Transportation	10 (3%)
Physician Recommendation	24 (8%)
Nothing/not interested	74 (26%)
Better/Improved Health	20 (7%)
Time	15 (5%)
Awareness/Information	14 (5%)
Weather	11 (4%)
Companions	11 (4%)
Closer to trails	9 (3%)



Users

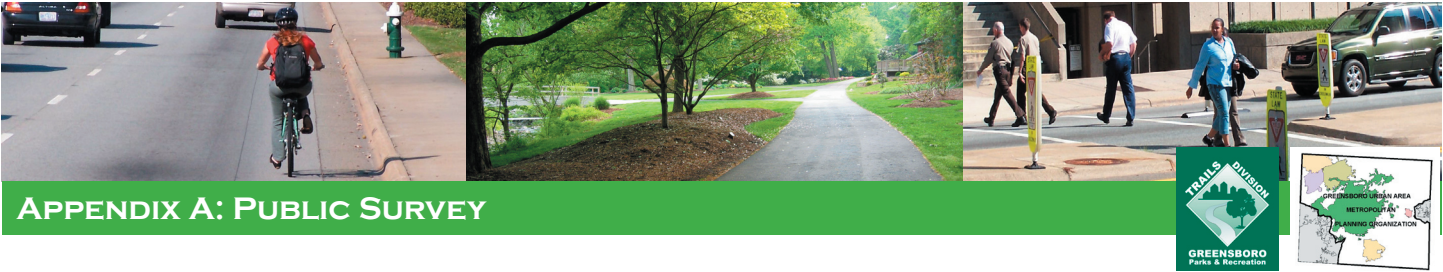
Five hundred phone surveys were completed for the non-user phone survey (Table 1). We found the users were predominately Caucasian (76%), females (55%), and the age of 40+ (71%). Sixty-three percent had a college degree or higher and were employed full time (63%), with an income of \$45,000 or more (55%). Over half of the users (55%) reported they used the trails for recreation purposes. The most common activity was walking with the majority of them reporting walking at least one to three times per week (81%).

Activities of users

The determining factor for users was use of the greenways and trails within the past year. The prevalence of trail users was 202 users per 500 people (40%). The greenways and trails were used primarily for recreation as reported by 55% of the users. Forty-three percent of the users reported using the trails primarily for their health (Table 12). After the participant was defined as a user, use in the last seven days was considered. Of the 202 participants classified as users, 86 (43%) used the trails in the last 7 days (Table 13).

TABLE 12. Primary use of trails reported by phone survey users

Reported Use	N (%)
Transportation	4 (2%)
Recreation	112 (55.4%)
Health	86 (42.6%)



**TABLE 13. Reported used and activities performed
phone survey users**

Reported Use	N (%)
Use in past year	202 (40%)
Use in past 7 days	86 (17%)
Activities Performed in Last 7 Days	N (%)
Walk	59 (58.4%)
Run/Jog	28 (27.7%)
Bike	14 (13.8%)

Data was collected on the activities performed, frequency of the activities, and total time over the last 7 days for those individuals. Walking was the most performed activity with 58.4% of participants reporting use. Some 27.7% of participants ran/jogged, and only 13.8% rode bikes on the trails (Table 13). In the last 7 days 44% of the 59 walkers reported walking on the trail once, 25% twice, and 73% walked less than 3 hours (Table 14). The most common number of visits for runners was two (28%) in the last 7 days and 43% stayed between 3-6 hours (Table 15). Many bikers (14) used the trails two (21.4%) or three times (21.4%) in the last seven days, 43% staying between 3-6 hours (Table16).



TABLE 14. Frequency and time spent walking in last 7 days by phone users

Detail of Last 7 Uses: Walking	
Number of visits	N (%)
1	26 (44.1%)
2	15 (25.4%)
3	7 (11.9%)
4	4 (6.8%)
5	3 (5.1%)
6	0
7	3 (5.1%)
Total time	
Less than 3 hours	43 (72.9%)
3-6 hours	14 (23.7%)
More than 6 hours	1 (1.7%)

TABLE 15. Frequency and time spent running in last 7 days by phone users

Detail of Last 7 Uses: Running/Jogging	
Number of visits	N (%)
1	2 (7.1%)
2	8 (28.6%)
3	3 (10.7%)
4	5 (17.9%)
5	7 (25%)
6	1 (3.6%)
7	1 (3.6%)
Total Time	
Less than 3 hours	10 (35.7%)
3-6 hours	12 (42.9%)
More than 6 hours	5 (17.9%)

TABLE 16. Frequency and time biking in last 7 days by phone users

Detail of Last 7 Uses: Biking	
Number of visits	N (%)
1	2 (14.3%)
2	3 (21.4%)
3	3 (21.4%)
4	2 (14.3%)
5	2 (14.3%)
6	0
7	1 (7.1%)
Total time	
Less than 3 hours	3 (21.4%)
3-6 hours	6 (42.9%)
More than 3 hours	4 (28.6%)



Interest in receiving information on trails

The final section of the phone survey asked participants if they were interested in receiving more information about the greenway and trails systems. Fifty-three percent of phone survey participants requested additional information about the trails. Mail (64%), television (42%), newspaper (40%) were the most preferred methods to receive information; while, billboards/signs (21%), radio (26%) and internet (27%) were favored least. (Table 17).

TABLE 17. Forms of media desired to receive trail information in phone surveys

Media	N (%)
TV	113 (42.6%)
Radio	70 (26.4%)
Newspaper	106 (40%)
Mail	170 (64.2%)
Internet	72 (27.2%)
Billboard/Signs	56 (21.1%)

*47% of phone survey participants did not want additional information



APPENDIX A: PUBLIC SURVEY

Discussion

The results of this study are extensive and there are many lessons to be learned. Further analysis may highlight still more lessons. However, at this point the most important results appear to be,

- The annual prevalence of trail and greenway use by Greensboro residents for the period summer 2004-summer 2005 is estimated to be 40.4%.
- The weekly prevalence of use, 17.2%, is much lower, however.
- The difference in the prevalence of use between Northwest Greensboro (where there are more trails) and Southeast Greensboro (where there are less) is substantial. If Greensboro could increase annual prevalence of use in the Southeast to equal that in the Northwest (by building more trails in the Southeast, for instance), annual trail and greenway usage in the Southeast would increase by 25 people per 100 in the Southeast.
- More than half of residents of Greensboro residents would like to receive more information about their trails and greenways. However, there is little consensus among residents about how they would like to receive the information.

Trail use was found to be more prevalent in the Northwest section of Greensboro, with 53% (Table 6) of those surveyed in the Northwest using the trails within the past year and 46.5% of users utilizing the trails in the past 7 days (Table 7). In comparison, only 28% (Table 6) of those surveyed in the Southeast section of Greensboro reported using the trails within the past year, furthermore, only 26% of the users had used in the past 7 days (Table 7).

Interestingly enough, if one were to look at a map of the current trail system in Greensboro, you would find the vast majority of the trails are located in the Northwest section of Greensboro. In fact, only one of

the seven major parks is located in the Southeast area of Greensboro. To further recognize the need for an expansion of the current trail system into portions of Southeast Greensboro, the intercept survey conducted with current trail users found that 70% of those that actively used the trails traveled less than 5 miles to access the trail (Table 1a). Also, when asked why they were not using the trails, the top two responses given were no time and that the trails were not close enough to them (Table 9).

The results of the two studies strongly support the need for expansion of the current trail system. Together the two studies illustrate residents of Greensboro are much more likely to be active and utilize trails, residents are likely to use the trails more often, and residents are more likely to consider starting to use the trails when the trails are located less than five miles from their dwellings.

Another purpose of the phone study was to survey non-trail users in order to determine their awareness about trails, the reasons why they do not use trails, and to determine what the motivational factors for them to use would be. The previously mentioned study performed in Arlington, MA was similar in that it was a survey to find out the use or non-use of their Minuteman Bikeway⁶. The Minuteman Bikeway survey was mailed to 1,002 adults; however, only 419 were returned. Their results showed that the majority of those using the Minuteman Bikeway were young, white, and male. Additionally, the users were highly educated with 60% reported having a bachelor's degree and 30% a Master's degree or higher. Walking was the most reported activity performed on the bikeway. While the focus of the study concentrated on the users, those that did report non-use stated their reasons as preference for physical activity elsewhere, lack of knowledge about the trail, lack of time, or lack of interest⁶.



The Minuteman Bikeway study is similar in ways to our study of the Greensboro trails and greenways; and it is different in many ways. The Minuteman Bikeway study was performed in an area of Massachusetts that is predominately white mid to upper class, which might explain some the demographic differences between their results and ours. In addition, the Minuteman Bikeway survey was mailed, and one might expect more trail users as opposed to non-users to open and complete a mailed survey. In contrast, the participants called in our survey were taken from a random list of phone numbers for the entire city of Greensboro, so as to limit selection bias in our results.

Strengths and Challenges

Our investigation had several noteworthy strengths, including the examination of use and non-use of the greenways and trails of Guilford County by region and demographic characteristics. A substantial amount of data was collected from both surveys with 452 intercepts surveys and 500 phone surveys completed. The phone surveys evenly represented both the Northwest and Southeastern regions of Guilford County. Many reasons for non-use of the greenways and trails were identified in the phone surveys. Interest in receiving information on the trails systems was measured, as well as, the means by which residents would most appreciate receiving trail information.

Challenges in this investigation included setting the definition for self-reported users. This definition was the basis of our estimate of the annual prevalence of trail and greenway use by Greensboro residents for the period summer 2004-summer 2005. Use of the trails at least once in the last year was used as the definition, and based on this definition the prevalence of use was 40.4%. However, this prevalence is quite sensitive to the one year time period we used in our definition. When we used a second more stringent definition of a

user (someone who used of a trail or greenway in the past week) the prevalence of use declined to 17.2%.



APPENDIX A: PUBLIC SURVEY

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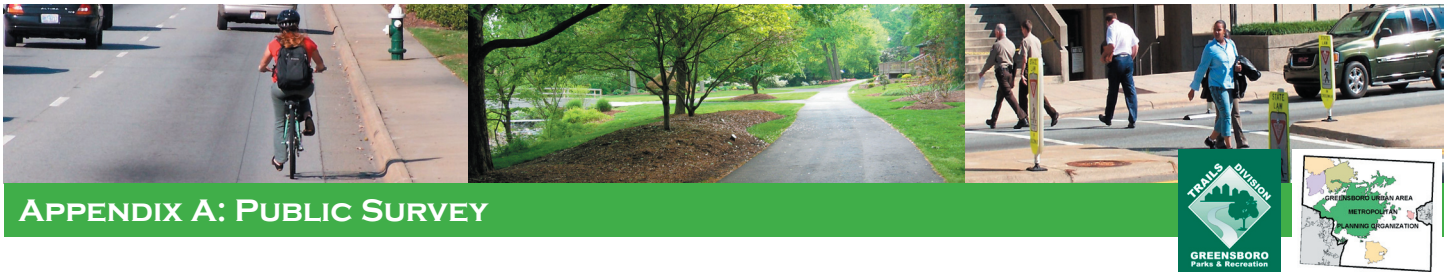


Table 18. Intercept survey demographics by trail

	Lake Brandt 42	Lake Daniel 56	Latham Park 70	Country Park 79	Bur-Mil Park 35	Barber Park 51	Arboretum/ Lindley Park 75
Age							
18-19	0 (0%)	8 (14%)	5 (7%)	6 (8%)	3 (9%)	0 (0%)	2 (3%)
20-29	9 (21%)	11 (19%)	22 (31%)	24 (30%)	11 (31%)	13 (25%)	37 (49%)
30-39	13 (31%)	8 (14%)	10 (14%)	18 (23%)	11 (31%)	14 (27%)	15 (20%)
40-49	8 (19%)	13 (23%)	13 (19%)	14 (18%)	5 (14%)	7 (14%)	7 (9%)
50-59	10 (24%)	9 (16%)	20 (20%)	11 (14%)	4 (11%)	13 (25%)	10 (13%)
60-70+*	2 (5%)	7 (13%)	6 (9%)	6 (8%)	1 (3%)	4 (8%)	4 (5%)
Missing	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	1 (1%)
Gender							
Male	21 (50%)	27 (48%)	44 (63%)	38 (48%)	25 (71%)	22 (42%)	39 (51%)
Female	21 (50%)	29 (52%)	26 (37%)	40 (51%)	10 (29%)	29 (56%)	35 (46%)
Missing	0 (0%)	0 (0%)	0 (0%)	1 (1%)	0 (0%)	1 (1%)	2 (3%)
Marital Status							
Single	17 (41%)	22 (39%)	34 (49%)	34 (43%)	15 (43%)	16 (31%)	36 (47%)
Married	19 (45%)	29 (52%)	27 (39%)	32 (41%)	19 (54%)	27 (52%)	36 (47%)
Divorced/Widowed	6 (14%)	5 (9%)	9 (12%)	12 (15%)	1 (3%)	8 (15%)	3 (4%)
Missing	0 (0%)	0 (0%)	0 (0%)	1 (1%)	0 (0%)	1 (1%)	1 (1%)
Education							
< 11 th grade	0 (0%)	1 (2%)	2 (3%)	0 (0%)	2 (6%)	2 (4%)	1 (1%)
Completed HS	3 (7%)	6 (11%)	6 (9%)	13 (17%)	3 (9%)	8 (15%)	6 (8%)
Some College	8 (19%)	10 (18%)	10 (14%)	19 (24%)	11 (31%)	16 (31%)	17 (22%)
College Degree	15 (36%)	18 (32%)	31 (44%)	34 (43%)	13 (37%)	18 (35%)	29 (38%)
Graduate School/ Post Bachelor's	13 (31%)	20 (36%)	21 (30%)	13 (17%)	5 (14%)	6 (12%)	20 (26%)
Missing	3 (7%)	1 (2%)	0 (0%)	0 (0%)	1 (3%)	2 (4%)	3 (4%)
Employment Status							
Full-time	32 (77%)	26 (47%)	45 (64%)	45 (57%)	23 (66%)	30 (58%)	41 (54%)
Part-time	2 (5%)	12 (22%)	10 (14%)	10 (13%)	2 (6%)	6 (12%)	13 (17%)
Not employed (Retired, student, homemaker, not employed)	7 (18%)	16 (29%)	15 (22%)	24 (30%)	10 (29%)	15 (30%)	19 (25%)
Missing	1 (2%)	2 (4%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	3 (4%)
Annual Income							
< \$ 25,000	5 (12%)	12 (22%)	14 (20%)	13 (16%)	6 (17%)	13 (25%)	25 (33%)
\$ 25,001 - \$ 45,000	8 (19%)	8 (14%)	22 (31%)	14 (18%)	6 (17%)	15 (29%)	18 (24%)
\$ 45,001 - \$ 65,000	8 (19%)	6 (11%)	6 (9%)	12 (15%)	6 (17%)	11 (21%)	7 (9%)
\$65,001 - \$85,000	6 (14%)	9 (16%)	5 (7%)	5 (6%)	4 (11%)	3 (6%)	11 (15%)
> \$ 85,000	8 (19%)	13 (24%)	15 (22%)	9 (11%)	6 (17%)	4 (8%)	6 (8%)
Missing	7 (17%)	8 (14%)	8 (11%)	26 (33%)	7 (20%)	6 (11%)	9 (12%)
Ethnicity							
Caucasian	36 (86%)	46 (82%)	58 (83%)	49 (62%)	27 (77%)	7 (14%)	50 (66%)
Black or African-American	1 (2%)	7 (13%)	8 (11%)	15 (19%)	5 (14%)	36 (69%)	15 (20%)
Other (Asian or Pacific Islander/ Native American/ Hispanic)**	3 (7%)	3 (5%)	4 (6%)	9 (11%)	3 (9%)	6 (12%)	7 (11%)
Missing	2 (5%)	0 (0%)	0 (0%)	6 (8%)	0 (0%)	3 (6%)	3 (4%)
Number of people in household							
1	11 (27%)	8 (14%)	25 (35%)	17 (22%)	9 (26%)	7 (14%)	10 (13%)
2	16 (38%)	22 (39%)	23 (33%)	22 (28%)	16 (46%)	19 (37%)	33 (43%)
3	9 (22%)	9 (16%)	11 (16%)	22 (28%)	3 (9%)	12 (23%)	13 (17%)
4	2 (5%)	11 (20%)	9 (13%)	13 (17%)	7 (20%)	4 (8%)	17 (22%)
5 or more	3 (7%)	6 (11%)	2 (3%)	4 (5%)	0 (0%)	6 (12%)	1 (1%)
Missing	1 (2%)	0 (0%)	0 (0%)	1 (1%)	0 (0%)	3 (6%)	2 (3%)

